

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:	Jackson <i>et al.</i>	Confirmation No.:	3708
Serial No.:	10/577,696; National Stage of International Application No. PCT/US2004/035636	Art Unit:	To be assigned
Filed:	October 27, 2004	Examiner:	To be assigned
For:	METHOD OF DESIGNING RNAs FOR GENE SILENCING	Attorney Docket No.:	9301-244-999

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.56 AND 1.97**

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Sir:

In accordance with the duty of disclosure imposed by 37 C.F.R. § 1.56 and § 1.97 to inform the Patent and Trademark Office of all references coming to the attention of each individual associated with the filing or prosecution of the subject application, which are or may be material to the patentability of any claim of the application, Attorneys for Applicant hereby direct the Examiner's attention to references A01 to A06, B01 to B02 and C01 to C59 listed on the attached List of References Cited by Applicant. A copy of each of references B01 to B02 and C01 to C59 is provided herewith.

Identification of the listed references is not to be construed an admission of Applicants or Attorneys for Applicants that such references are available as "prior art" against the subject application.

Applicants respectfully request that the Examiner review the foregoing references and that the references be made of record in the file history of the application.

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Pursuant to 37 C.F.R. § 1.97(b)(4), since this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits, it is estimated that no fee is required. However, should the Patent Office determine otherwise, please charge the required fee to Jones Day Deposit Account No. 50-3013, referencing Docket No. 9301-244-999 (301891-999236). A copy of this sheet is enclosed.

Date March 12, 2007

Respectfully submitted,

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Enclosures

<b>LIST OF REFERENCES CITED BY APPLICANT</b> (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b>	<b>APPLICATION NO.</b>
	9301-244-999	10/577,696
	<b>APPLICANT</b>	Jackson et al.
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**U.S. PATENT DOCUMENTS**

*Examiner Initials	Document Number	Date mm/dd/yy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
A01	6,506,559	01/14/03	FIRE et al.	
A02	2002/0086356	07/04/02	TUSCHL et al.	
A03	2002/0162126	10/31/02	BEACH et al.	
A04	2003/0175950 A1	09/18/03	MCSWIGGEN	
A05	2003/0194725 A1	10/16/03	GREENER et al.	
A06	2003/0143597 A1	07/31/03	FINNEY et al	

**FOREIGN PATENT DOCUMENTS**

*Examiner Initials	Foreign Patent Document Country Code, Number, Kind Code (if known)	Date mm/dd/yy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
B01	WO 02/44321	06/06/02	Max-Planck-Gessellschaft Zur Forderung Der Wissenschaften EV		
B02	WO 03/006477	01/23/03	University of Massachusetts		

**NON PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Include name of the author (in CAPITAL LETTERS), (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
C01	AZA-BLANC et al. (2003). "Identification of Modulators of TRAIL-Induced Apoptosis via RNAi-Based Phenotypic Screening". Mol. Cell 12(3):627-637.	
C02	BASS (2000). "Double-Stranded RNA as a Template for Gene Silencing". Cell 101(3):235-238.	
C03	BODEN et al. (2003). "Promoter Choice Affects the Potency of HIV-1 Specific RNA Interference". Nucleic Acids Res. 31(17):5033-5038.	
C04	BRUMMELKAMP et al. (2002). "A System for Stable Expression of Short Interfering RNAs in Mammalian Cells". Science 296(5567):550-553.	
C05	CAMPBELL (1994). "Advances in Statistical Methodology for the Evaluation of Diagnostic And Laboratory Tests". Stat. Med. 13(7-May):499-508.	
C06	COUZIN (2002). "Breakthrough of The Year. Small RNAs Make Big Splash". Science 298(5602):2296-2297.	
C07	ELBASHIR et al. (2001). "Duplexes of 21-Nucleotide RNAs Mediate RNA Interference in Cultured Mammalian Cells". Nature 411(6836):494-498.	
C08	ELBASHIR et al. (2001). "Functional Anatomy of siRNAs for Mediating Efficient RNAi in Drosophila Melanogaster Embryo Lysate". EMBO J 20(23):6877-6888.	
C09	ELBASHIR et al. (2001). "RNA Interference Is Mediated By 21- and 22-Nucleotide RNAs". Genes Dev. 15(2):188-200.	
C10	FIRE et al. (1998). "Potent and Specific Genetic Interference by Double-Stranded RNA in Caenorhabditis Elegans". Nature 391(6669):806-811.	

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	C11	GRANT (1999). "Dissecting The Mechanisms Of Posttranscriptional Gene Silencing: Divide And Conquer". Cell 96(3):303-306.	
	C12	GRIBSKOV et al. (1987). "Profile Analysis: Detection Of Distantly Related Proteins". Proc. Natl. Acad. Sci. U S A 84(13):4355-4358.	
	C13	GRIBSKOV et al. (1990). "Profile Analysis". Methods Enzymol. 183:146-159.	
	C14	GRIBSKOV et al. (1996). "Use Of Receiver Operating Characteristic (ROC) Analysis To Evaluate Sequence Matching". Comput. Chem. 20(1):25-33.	
	C15	GRISHOK et al. (2001). "Genes And Mechanisms Related To RNA Interference Regulate Expression Of The Small Temporal RNAs That Control C. Elegans Developmental Timing". Cell 106(1):23-34.	
	C16	GUO et al. (1995). "par-1, A Gene Required For Establishing Polarity In C. Elegans Embryos, Encodes A Putative Ser/Thr Kinase That Is Asymmetrically Distributed". Cell 81(4):611-620.	
	C17	HAMMOND et al. (2001). "Argonaute2, A Link Between Genetic And Biochemical Analyses of RNAi". Science 293(5532):1146-1150.	
	C18	HANNON (2002). "RNA Interference". Nature 418(6894):244-251.	
	C19	HENIKOFF et al. (1994). "Position-Based Sequence Weights". J. Mol. Biol. 243(4):574-578.	
	C20	HUTVAGNER et al. (2001). "A Cellular Function For The RNA-Interference Enzyme Dicer In The Maturation Of The let-7 Small Temporal RNA". Science 293(5531):834-838.	
	C21	HUTVAGNER et al. (2002). "A microRNA In A Multiple-Turnover RNAi Enzyme Complex". Science 297(5589):2056-2060.	
	C22	KAWASAKI et al. (2003). "Short Hairpin Type of dsRNAs that are Controlled by tRNA(Val) Promoter Significantly induce RNAi-mediated Gene Silencing in the Cytoplasm of Human Cells". Nucleic Acids Res. 31(2):700-707.	
	C23	KETTING et al. (2001). "Dicer Functions in RNA Interference and in Synthesis of Small RNA Involved in Developmental Timing in C. Elegans". Genes Dev. 15(20):2654-2659.	
	C24	KROGH et al. (1994). "Hidden Markov Models In Computational Biology. Applications To Protein Modeling". J. Mol. Biol. 235(5):1501-1531.	
	C25	KWAK et al. (2003). "RNA Interference With Small Hairpin RNAs Transcribed From A Human U6 Promoter-Driven DNA Vector". J. Pharmacol. Sci. 93(2):214-217.	
	C26	LAU et al. (2001). "An Abundant Class Of Tiny RNAs With Probable Regulatory Roles In Caenorhabditis Elegans". Science 294(5543):858-862.	
	C27	LEE et al. (1993). "The C. Elegans Heterochronic Gene lin-4 Encodes Small RNAs With Antisense Complementarity To lin-14". Cell 75(5):843-854.	
	C28	LEE et al. (2001). "An Extensive Class Of Small RNAs In Caenorhabditis Elegans". Science 294(5543):862-864.	
	C29	LEWIS et al. (2002). "Efficient Delivery Of siRNA For Inhibition Of Gene Expression In Postnatal Mice". Nat. Genet. 32(1):107-108.	
	C30	MARTINEZ et al. (2002). "Single-Stranded Antisense siRNAs Guide Target RNA Cleavage In RNAi". Cell 110(5):563-574.	
	C31	MARTINEZ et al. (2002). "Synthetic Small Inhibiting RNAs: Efficient Tools To Inactivate Oncogenic Mutations And Restore p53 Pathways". Proc. Natl. Acad. Sci. U S A 99(23):14849-14854.	
	C32	MCCAFFREY et al. (2002). "RNA Interference In Adult Mice". Nature 418(6893):38-39.	
	C33	MCMANUS et al. (2002). "Gene Silencing In Mammals By Small Interfering RNAs". Nat. Rev. Genet. 3(10):737-747.	
	C34	METZ (1986). "ROC Methodology In Radiologic Imaging". Invest. Radiol. 21(9):720-733.	

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C35	MIYAGISHI et al. (2002). "U6 Promoter-Driven siRNAs With Four Uridine 3' Overhangs Efficiently Suppress Targeted Gene Expression In Mammalian Cells". Nat. Biotechno. 20(5):497-500.	
C36	MOURELATOS et al. (2002). "miRNPs: A Novel Class Of Ribonucleoproteins Containing Numerous microRNAs". Genes Dev. 16(6):720-728.	
C37	PADDISON et al. (2002). "RNA Interference: The New Somatic Cell Genetics?". Cancer Cell 2(1):17-23.	
C38	PADDISON et al. (2002). "Short Hairpin RNAs (shRNAs) Induce Sequence-Specific Silencing In Mammalian Cells". Genes Dev. 16(8):948-958.	
C39	PADDISON et al. (2002). "Stable Suppression Of Gene Expression By RNAi In Mammalian Cells". Proc. Natl. Acad. Sci. U S A 99(3):1443-1448.	
C40	PAUL et al. (2002). "Effective Expression Of Small Interfering RNA In Human Cells". Nat. Biotechnol. 20(5):505-508.	
C41	PETCHERSKI et al. (2000). "LAG-3 Is A Putative Transcriptional Activator In The C. Elegans Notch Pathway". Nature 405(6784):364-368.	
C42	REINHART et al. (2000). "The 21-Nucleotide let-7 RNA Regulates Developmental Timing In Caenorhabditis Elegans". Nature 403(6772):901-906.	
C43	RUBINSON et al. (2003). "A Lentivirus-Based System To Functionally Silence Genes In Primary Mammalian Cells, Stem Cells And Transgenic Mice By RNA Interference". Nat. Genet. 33(3):401-406.	
C44	SALZBERG et al. (1998). "Microbial Gene Identification Using Interpolated Markov Models". Nucleic Acids Res. 26(2):544-548.	
C45	SONG et al. (2003). "RNA Interference Targeting Fas Protects Mice From Fulminant Hepatitis". Nat. Med. 9(3):347-351.	
C46	SORENSEN et al. (2003). "Gene Silencing By Systemic Delivery Of Synthetic siRNAs In Adult Mice". J. Mol. Biol. 327(4):761-766.	
C47	SUI et al. (2002). "A DNA Vector-Based RNAi Technology To Suppress Gene Expression In Mammalian Cells". Proc. Natl. Acad. Sci. U S A 99(8):5515-5520.	
C48	TABARA et al. (1999). "The rde-1 Gene, RNA Interference, And Transposon Silencing In C. Elegans". Cell 99(2):123-32.	
C49	TISCORNIA et al. (2003). "A General Method For Gene Knockdown In Mice By Using Lentiviral Vectors Expressing Small Interfering RNA". Proc. Natl. Acad. Sci. U S A 100(4):1844-1848.	
C50	TUSCHL et al. (1999). "Targeted mRNA Degradation By Double-Stranded RNA In Vitro". Genes Dev. 13(24):3191-3197.	
C51	WIGHTMAN et al. (1993). "Posttranscriptional Regulation Of The Heterochronic Gene lin-14 By lin- 4 Mediates Temporal Pattern Formation In C. Elegans". Cell 75(5):855-862.	
C52	WILDA et al. (2002). "Killing Of Leukemic Cells With A BCR/ABL Fusion Gene By RNA Interference (RNAi)". Oncogene 21(37):5716-5724.	
C53	WILLIAMS et al. (2002). "ARGONAUTE1 Is Required For Efficient RNA Interference In Drosophila Embryos". Proc. Natl. Acad. Sci. U S A 99(10):6889-6894.	
C54	XIA et al. (2002). "siRNA-Mediated Gene Silencing in Vitro and in Vivo". Nat. Biotechnol. 20(10):1006-1010.	
C55	YU et al. (2002). "RNA Interference by Expression of Short-Interfering RNAs and Hairpin RNAs in Mammalian Cells". Proc. Natl. Acad. Sci. U S A 99(9):6047-6052.	
C56	ZAMORE et al. (2000). "RNAi: Double-Stranded RNA Directs the ATP-Dependent Cleavage of mRNA at 21 to 23 Nucleotide Intervals". Cell 101(1):25-33.	
C57	ZENG (2002). "Both Natural and Designed Micro RNAs Can Inhibit the Expression of Cognate mRNAs When Expressed in Human Cells". Mol. Cell 9(6):1327-1333.	
C58	ZIJLSTRA et al. (1989). "Germ-Line Transmission of a Disrupted Beta 2-Microglobulin Gene Produced by	

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	Homologous Recombination in Embryonic Stem Cells". Nature 342(6248):435-438.	
C59	LEVENKOVA et al. 2004, "Gene specific siRNA selector," Bioinformatics, 20(3):430-2	

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